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10/764,245	01/23/2004	Karl K. Holt	24852.24682	8050

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EXAMINER
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BARRY, CHESTER T

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/764,245

Applicant(s)

HOLT, KARL K.

Examiner

Chester T. Barry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-12, 14-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-20 is/are allowed.
- 6) ☐ Claim(s) \* 1-3, 5-12, 14-18 is/are rejected. \* 1-3, 5-12, 14-18
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

Claims 1 – 3, 5, 7 – 9, 10 – 12, 14, 16 - 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 41-151480 in view of US Pat 6861248 to Dale.

JP 41-151480 describes a wastewater treatment plant in which an air blower intermittently adds air to wastewater held by a holding tank 70 in order to reciprocally carry out aerobic and anaerobic treatment. It is not clear whether element 15a through which air is blown into the wastewater is an air sparger or an air stone. In any event, however, it would have been obvious to have substituted an air stone for an air sparger in view of the recognition in this art that air stones and air spargers are equivalent structures for performing the same submerged air bubble-dispersing function, as shown for example by US Pat 6861248 to Dale.<sup>1</sup> Moreover, to the extent that the document does not show that the blower is powered by electricity, but rather by some other power source, it would have been obvious to have used an electric motor to drive the blower mechanism because of the widespread availability, ease of use, and low cost of electric power. Per claim 2, Fig 6 describes use of two air blowers, tubes, and air spargers. Per claim 3, Fig 6 shows that the two air blowers, tubes, and air spargers are not located at the same location. Per claim 5, it is conventional in industry to package electrical equipment intended for use out-of-doors such that electrical connections are protected from the elements, e.g., rain and moisture, for the purpose of reducing corrosion and/or electrical shorts. Insofar as wastewater treatment holding tanks, such as the type described in the Japanese reference, are typically large volume vessels,

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<sup>1</sup> "Air is introduced into the reactor through an air sparger (such as a sintered glass air stone or other bubbling device) at a rate of between zero and 0.20 VVM (volume air

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they are typically stored out-of-doors. Accordingly, it would have been obvious to have placed the electrical connections of the blower in a weatherproof package. Per claim 7, Fig 8 describes inlet wastewater pipe means 1 and inlet wastewater valve means 71 for adding at least any bacteria into the treatment system which are necessarily found in the incoming wastewater stream.

The intended use of a claimed device, even if recited in the claim itself, does not limit the structure of the claimed invention. Accordingly, because it is clear that the claimed remediation apparatus of claim 1 having a pump, tube, and air stone, for example, is merely intended to be used in conjunction with a wastewater treatment system comprised of at least one septic tank having an outlet, a distribution system and a leaching system, wherein effluent drains from the tank outlet through the distribution system and to the leaching system, the "at least one septic tank," its "outlet," the "distribution system," and the "leaching system" do not themselves constitute elements of the claimed remediation apparatus. Note the conspicuous absence of the septic tank, the outlet, the distribution system, and the leaching system from the body of claim 1, for example.

Claims 1, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP11-253942 in view of US Pat 6861248 to Dale.

JP11-253942 describes a wastewater treatment plant in which a submerged air blower adds air to wastewater held by a holding tank. It is not clear whether element 11

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per volume reactor per minute), and stirring of the reactor is adjusted so as to lift the

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through which air is blown into the wastewater is an air sparger or an air stone. In any event, however, it would have been obvious to have substituted an air stone for an air sparger in view of the recognition in this art that air stones and air spargers are equivalent structures for performing the same submerged air bubble-dispersing function, as shown for example by US Pat 6861248 to Dale.<sup>2</sup> Moreover, to the extent that the document does not show that the blower is powered by electricity, but rather by some other power source, it would have been obvious to have used an electric motor to drive the blower mechanism because of the widespread availability, ease of use, and low cost of electric power.

Insofar as water is known to corrode electrical connections, it would have been obvious to have packaged the electrically-powered air blower in a watertight housing to prevent electrical shorts and the like.

Claims 6, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 41-151480 in view of US Pat 6861248 to Dale, as applied to claim 1 and claim 10, respectively, above, further in view of US 20030113908 A1. This published patent application shows that it PVC tube material was recognized in a water aeration art as a suitable material from which air tubes can be made. It would have been obvious to have made the air tubes described in the Japanese reference from any material

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cells gently from the bottom of the reactor."

<sup>2</sup> "Air is introduced into the reactor through an air sparger (such as a sintered glass air stone or other bubbling device) at a rate of between zero and 0.20 VVM (volume air per volume reactor per minute), and stirring of the reactor is adjusted so as to lift the cells gently from the bottom of the reactor."

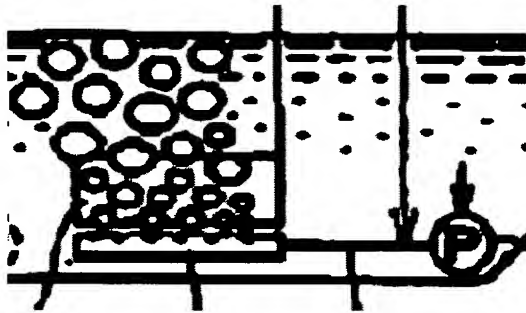
recognized as being suitable for carrying air under pressure for the purpose of aerating a liquid, as shown, for example, by US 20030113908 A1.

Claims 19 - 20 are allowed.

Claims 1 – 3, 5 – 12, 14 – 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant's disclosure enables, by dint of the air stone placed within the ultimate septic tank, allowing aerobic bacteria in the ultimate septic tank to proliferate, but does not enable proliferation of the penultimate or further-upstream septic tank(s). For example, in the case in which "at least one septic tank" is two septic tanks, e.g., as shown in Fig 3, air admitted by the air stone into the more downstream tank is sufficiently aerated, but it is not seen how the more upstream tank, i.e., the first tank, is sufficiently aerated to allow proliferation of aerobic bacteria.

Applicant argues it is unclear what element 15a in the primary reference is. 15a is an air or other oxygenated-gas discharge manifold, air or other oxygenated-gas

sparger, or gas stone. The circles are rising gas bubbles.



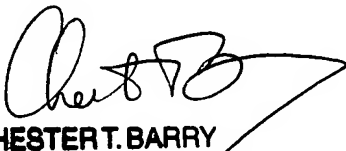
Element 12 is a membrane separation device indeed, but applicant's claims do not exclude the presence of a membrane separation device in the system, so the presence of the membrane in the applied art does not rule out the reference as a relevant document. See USP 6863818 for background on the conventionality of using aeration below a membrane separator in biological processing.

Applicant argues that the supposed lack of clarity of the interrelatedness of the membrane 12 and the air sparger 15a of JP '480 "bears directly" on the obviousness test to be applied to the claims. The examiner disagrees. 15a is an air stone or air sparger.

Notwithstanding Applicant's amendment to claim 1 in which a septic tank, distribution system, and leaching system "appear" in the body of claim 1, they are still not positively recited limitations of the claimed apparatus. In essence, the apparatus being claimed is still a specific pump, a specific tube, and a specific air stone. The other words appearing in the claim related merely to an intended use of the claimed apparatus.

If applicant were to claim the following, the art of record alone would not meet the claimed limitations:

A wastewater treatment system for carrying treating effluent comprising:  
a penultimate septic tank having an outlet,  
an ultimate septic tank having an outlet and an inlet in fluid communication with said penultimate outlet;  
a distribution system in fluid communication with said ultimate outlet;  
a leaching system in fluid communication with said distribution system;  
at least one positive pressure ozone generating pump having an output;  
a tube having a first end and a second end, the first end being attached to the pump output; and  
an air stone attached to the second tube end and capable of introducing ozone into the effluent, wherein said effluent in said ultimate tank comprises ozone and the ultimate septic tank, distribution system, and leaching system comprise proliferating aerobic bacteria.

  
**CHESTERT.T. BARRY**  
**PRIMARY EXAMINER**

571-272-1152